



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Jeremy E. Dahl et al.

Application No.: 10/758,679

Filing Date: January 15, 2004

Title: LUMINESCENT
HETERODIAMONDOIDS AS
BIOLOGICAL LABELS

)
)
) Group Art Unit: 1641

)
) Examiner: DAVID J VENCI

)
) Confirmation No.: 4958

INFORMATION DISCLOSURE STATEMENT
TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is an Information Disclosure Statement (IDS) and accompanying form PTO-1449 for the above-identified patent application.

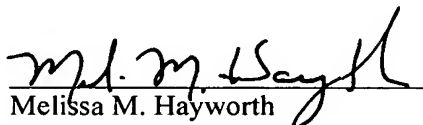
- ☐ No additional fee for submission of an IDS is required.
- ☒ The fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e), and the fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ Charge _____ to Deposit Account No. 02-4800 for the fee due.
- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☒ Charge \$ 180 to credit card for the fee due. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date July 25, 2007

By:


Melissa M. Hayworth
Registration No. 45,774

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620

07/26/2007 MAHHEED1 00000150 10758679

02 FC:1006

100.00 0P



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	
)	
Jeremy E. Dahl et al.)	Group Art Unit: 1641
)	
Application No.: 10/758,679)	Examiner: DAVID J VENCI
)	
Filed: January 15, 2004)	Confirmation No.: 4958
)	
For: LUMINESCENT)	
HETERODIAMONDOIDS AS)	
BIOLOGICAL LABELS)	
)	
)	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, the accompanying information is being submitted in accordance with 37 C.F.R. §§ 1.97 and 1.98.

Copies of the listed documents submitted with the Information Disclosure Statements filed on 30 December 2004 and 2 July 2004 are not submitted herewith because they were submitted with the original filings and are imaged in PAIR. The three cited documents not previously submitted are enclosed herewith.

This Information Disclosure statement is being submitted after a first Office Action on the merits but prior to the closing of prosecution; therefore, the fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) is enclosed.

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

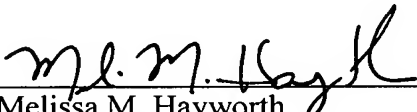
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: July 25, 2007

By:


Melissa M. Hayworth
Registration No. 45,774

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620

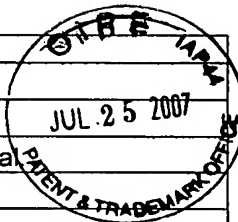
**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	10/758,679
Filing Date	January 15, 2004
First Named Inventor	Jeremy E. Dahl et al.
Examiner Name	Venci, David
Attorney Docket Number	005950-845

Sheet 1 of 8

**U.S. PATENT DOCUMENTS**

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
	6,576,155	B1	Barbera-Guillem	06-10-2003
	6,548,171	B1	Barbera-Guillem et al.	04-15-2003
	6,433,474	B1	Horiuchi et al.	08-13-2002
	6,423,551	B1	Weiss et al.	07-23-2002
	6,377,340	B1	Anthony et al.	04-23-2002
	6,376,276	B1	Oishi et al.	04-23-2002
	6,352,884	B1	Yu et al.	03-05-2002
	6,340,393	B1	Yoshida	01-22-2002
	6,326,144	B1	Bawendi et al.	12-04-2001
	6,322,901	B1	Bawendi et al.	11-27-2001
	6,309,701	B1	Barbera-Guillem	10-30-2001
	6,306,610	B1	Bawendi et al.	10-23-2001
	6,274,837	B1	Windischmann et al.	08-14-2001
	6,235,851		Ishii, et al.	05-22-2001
	6,207,392	B1	Weiss et al.	03-27-2001
	6,162,412		Fujimori et al.	12-19-2000
	6,151,347		Noel et al.	11-21-2000
	6,114,038		Castro et al.	09-05-2000
	6,110,276		Yu et al.	08-29-2000
	5,990,479		Weiss et al.	11-23-1999
	5,989,947		Dilger et al.	11-23-1999
	5,812,573		Shiomi et al.	09-22-1998
	5,792,256		Kucherov et al.	08-11-1998
	5,747,118		Bunshah et al.	05-05-1998
	5,773,830		Lu et al.	06-30-1998
	5,703,896		Pankove et al.	12-30-1997
	5,701,323		Kahr et al.	12-23-1997
	5,656,828		Zachai et al.	08-12-1997
	5,653,800		Kucherov et al.	08-05-1997
	5,632,812		Hirabayashi	05-27-1997
	5,610,405		Inushima et al.	03-11-1997
	5,608,666		Inushima et al.	03-04-1997
	5,600,156		Nishibayashi et al.	02-04-1997
	5,541,423		Hirabayashi	07-30-1996
	5,531,184		Muranaka et al.	07-02-1996
	5,504,767		Jamison et al.	04-02-1996
	5,504,323		Heeger et al.	04-02-1996
	5,478,650		Davanloo et al.	12-26-1995
	5,476,812		Kimoto et al.	12-19-1995
	5,470,505		Smith et al.	11-28-1995
	5,454,880		Saraciftci et al.	10-03-1995
	5,420,879		Kawarada et al.	05-30-1995
	5,449,531		Zhu et al.	09-12-1995
	5,414,189		Chen, et al.	05-09-1995
	5,389,799		Uemoto	02-14-1995
	5,382,809		Nishibayashi et al.	01-17-1995
	5,382,684		Moini et al.	01-17-1995
	5,371,382		Venkatesan et al.	12-06-1994

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	10/758,679
Filing Date	January 15, 2004
First Named Inventor	Jeremy E. Dahl et al.
Examiner Name	Venci, David
Attorney Docket Number	005950-845

Sheet 2 of 8

U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
	5,352,908		Kobashi et al.	10-04-1994
	5,349,209		Moyer et al.	09-20-1994
	5,347,147		Jones	09-13-1994
	5,331,183		Saraciftici et al.	07-19-1994
	5,306,928		Kimoto et al.	04-26-1994
	5,275,967		Taniguichi et al.	01-04-1994
	5,273,731		Anthony et al.	12-28-1993
	5,245,189		Satoh et al.	09-14-1993
	5,223,721		Iida et al.	06-29-1993
	5,210,430		Taniguchi et al.	05-11-1993
	5,210,431		Kimoto et al.	05-11-1993
	5,171,632		Heeger et al.	12-15-1992
	5,144,380		Kimoto et al.	09-01-1992
	5,132,749		Nishibayashi et al.	06-21-1992
	5,117,267		Kimoto et al.	05-26-1992
	5,112,775		Iida et al.	05-12-1992
	5,075,757		Ishii et al.	12-24-1991
	5,051,785		Beetz, Jr. et al.	09-24-1991
	5,019,660		Chapman et al.	05-28-1991
	5,017,734		Baum et al.	05-21-1991
	4,985,226		Satoh et al.	01-15-1991
	4,959,201		Satoh et al.	09-25-1990
	4,950,625		Nakashima et al.	08-21-1990
	4,950,463		Satoh et al.	08-21-1990
	4,949,347		Satoh et al.	08-14-1990
	4,910,436		Collins et al.	03-20-1990
	4,880,613		Satoh et al.	11-14-1989
	4,638,484		Rand et al.	01-20-1987
	4,201,955		Elton et al.	05-06-1980
	3,832,332		Thompson	08-27-1974
	3,457,318		Capaldi et al.	08-22-1969
	2003/0044353	A1	Weissleder et al.	03-06-2003
	2002/0009274	A1	Gharavi	01-24-2002
	2002/0177743	A1	Dahl et al.	11-28-2002
	2003/0199710	A1	Liu et al.	10-23-2003
	2004/0054243	A1	Timken et al.	03-18-2004
	2004/0059145	A1	Liu et al.	03-24-2004
	2004/0109328	A1	Dahl et al.	06-10-2004

FOREIGN PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	STATUS						
					Translation	Partial Translation	Eng. Lang. Summary	Search Report	IPER	Abstract	Cited in Spec
	02/058139	A2	WO	07-25-2002							
	02/057201	A2	WO	07-25-2002							
	95/06019	A1	WO	03-02-1995							

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Sheet 3 of 8				Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
				Attorney Docket Number	005950-845

FOREIGN PATENT DOCUMENTS

	03/050066	A1	WO	06-19-2003							
	2,545,292		DE	04-1979							
	US02/0050		WO	01-17-2002							
	01/83410	A	WO	11-08-2001							
	1 043 916	A1	EP	10-11-2002							
	1 081 747	A1	EP	03-07-2001							

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Askeland, D.R., "The Science and Engineering of Materials", 2 nd Edition, PWS-Kent Publishing Co., Boston, MA., pp. 664-667 (1989).
	Balaban et al., "Systematic Classification and Nomenclature of Diamond Hydrocarbons-I", Tetrahedron 34 :3599-3609 (1978).
	Baughman, G.I., "Dibromination of Adamantane", Journal of Organic Chemistry, 29 :238-240 (1964).
	Beck et al., "A New Family of Mesoporous Molecular Sieves Prepared with Liquid Crystal Templates", J. Am. Chem. Soc. 114 :10834-10843 (1992).
	Becker et al., "A Short Synthese of 1-azaadamantan-4-one and the 4r and 4s Isomers of 4-Amino-1-azaadamantane", Synthesis 11 :1080-1082 (1992).
	Beveratos et al., "Single Photon Quantum Cryptography", American Physical Society, Physical Review Letters, 89 (18):1-4 (2002).
	Bingham et al., "Recent Developments in the Chemistry of Adamantane and Related Polycyclic Hydrocarbons", Fortschritte der chemischen Forschung, Chapter 18 - Chemistry of Adamantanes, Springer-Verlag, pp. 1-102 (1971).
	Bishop et al., "Detection of Non-Conjugative Interactions in Rigid Cyclic Molecules by Using Carbon-13 N.M.R. Shift Values", Aust. J. Chem. 40 :249-255 (1987).
	Black et al., "Adamantane Chemistry. Part 3. Abnormal Hypiodite Reactions of 2-Substituted Adamantan-2-ols; Synthetic Routes to 4-Oxahomo- and 2-Oxa-adamantanes, and 7-Substituted-bicyclo[3.3.1]nona-3-ols", J. Chem. Soc. Perkin I, pp. 410-418 (1980).
	Blaney et al., "Chemistry of Diamantane, Part II. Synthesis of 3,5-disubstituted Derivatives", Synthetic Communications 3 (6):435-439 (1973).
	Boudjouk et al., "Synthesis and Reactivity of 1-Silaadamantyl Systems", Organometallics 2 (2):336-343 (1983).
	Boudjouk et al., "The Reaction of Magnesium with cis-1,3,5-Tris(bromomethyl)cyclohexane. Evidence For a Soluble Tri-grignard", Journal of Organometallic Chemistry 281 :C21-C23 (1985).
	Bubnov et al., "A Novel Method of Synthesis of 1-azaadamantane from 1-boraadamantane", Journal of Organometallic Chemistry 412 :1-8 (1991).
	Canham, L., "Gaining Light from Silicon", Nature 408 :411-412 (2000).
	Cao, G.Z., "Nitrogen and Phosphorus Doping in CVD Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 345-347 (2001).
	Chakrabarti et al., "Chemistry of Adamantane. Part II. Synthesis of 1-Adamantyloxyalkylamines", Tetrahedron Letters 60 :6249-6252 (1968).
	Courtney et al., "The Chemistry of Diamantanes. Part 1. Synthesis and Some Functionalisation Reactions", J. Chem. Soc. Perkin I, pp. 2691-2696 (1972).

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

				Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
				Attorney Docket Number	005950-845
Sheet	2	of	8		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Dahl et al., "Isolation and Structure of Higher Diamondoids, Nanometer-Sized Diamond Molecules", <i>Science</i> 299 :96-99 (2003).
	Eguchi et al., "A novel route to the 2-aza-adamantyl system via photochemical ring contraction of epoxy 4-azahomoadamantanes," <i>J. Chem. Soc. Chem. Commun.</i> , p. 1147-1148 (1984).
	Fernandez et al., "NMR Study of 1-Azatricyclo[3.3.1 ³⁻⁷]decane Derivatives", <i>J. Heterocyclic Chem.</i> 26 :307-312 (1989).
	Fernandez et al., "Synthesis, Structural and Conformational Study of 4- α -(or β)-p-Chlorobenzoyloxy-1-azaadamantane Hydrochloride", <i>J. Heterocyclic Chem.</i> 26 :349-353 (1989).
	Fleming et al., "A New Oxindole Synthesis", <i>J. Chem. Soc. Perkin I</i> , pp. 617-626 (1991).
	Fox et al., "Transmission of Electronic Effects by Icosahedral Carboranes; Skeletal Carbon-13 Chemical Shifts and Ultraviolet-Visible Spectra of Substituted aryl-p-carboranes (1,12-dicarba-closo-dodecaboranes)", <i>J. Chem. Soc., Dalton Trans.</i> pp. 401-411 (1998).
	Fritz et al., "Silicon-Carbon Compounds with a Carborundum Structure", <i>Agnew. Chem. Internat. Edit.</i> 9 (6) Abstract (1970).
	Fritz et al., "Über die Isolierung höherer Carbosilane aus der Pyrolyse des Tetramethylsilans" <i>Z. anorg. Allg. Chem.</i> 512 :103-125 (1984).
	Gagneux et al., "1-Substituted 2-heteroadamantanes," <i>Tetrahedron Letters</i> No. 17, pp. 1365-1368 (1969).
	Gerzon et al., "The Adamantyl Group in Medicinal Agents, 1. Hypoglycemic N-Arylsulfonyl-N'-adamantylureas", <i>Journal of Medicinal Chemistry</i> 6 (6):760-763 (1963).
	Hass et al., Adamantoxycarbonyl, a New Blocking Group. Preparation of 1-Adamantyl Chloroformate", <i>Journal of the American Chemical Society</i> 88 (9):1988-1992 (1966).
	Hahn et al., "Strongly Enhanced Stereoselectivity in the Reduction of 5-Substituted Adamantanones by Substitution of C ₅ by Positive Nitrogen", <i>J. Am. Chem. Soc.</i> 114 :1916-1917 (1992).
	Hawley, "Condensed Chemical Dictionary", 14th ed., John Wiley & Sons, Inc., pp. 849-850 (2001).
	Heavens, O.S., "Wave Theory (1): Interference", <i>Insight into Optics</i> , John Wiley & Sons, Chichester, England, pp. 28-48 (1991).
	Heavens, O.S., "Interaction of Radiation and Matter", <i>Insight into Optics</i> , John Wiley & Sons, Chichester, England, pp. 137-145 (1991).
	Heavens, O.S., "Lasers", <i>Insight into Optics</i> , John Wiley & Sons, Chichester, England, pp. 244-259 (1991).
	Hecht, E., "Lasers and Laserlight", <i>Optics</i> , Addison-Wesley Publishing Company, Reading Massachusetts, pp. 577-593 (1987).
	Henkel et al., "Neighboring group effects in the β -halo amines. Synthesis and solvolytic reactivity of the anti-4-substituted 2-azaadamantyl system," in <i>J. Org. Chem.</i> Vol. 46, No. 24, pp. 4953-4959 (1981).
	Hermanson, G.T., "Bioconjugate Techniques", Academic Press, San Diego, pp. 3-16, 27-34, and 40-53 (1996).
	Jackman, R.B., "Diamond optoelectronic devices", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 393-398 (2001).
	Jawdoski et al., "Photolysis and Thermolysis of 3-Azidonoradamantane. "Anti-Bredt" Imines, 2-aza-adamant-1-ene, and 4-Azaprotadamant-3-ene", <i>J. Chem. Soc. Perkin Trans 1</i> :2583-2585 (1984).
	John, P., "Toward Diamond Lasers", <i>Science</i> 292 :1847-1848 (2001).

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

				Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
				Attorney Docket Number	005950-845
Sheet	3	of	8		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Johnston et al., "Boron Doping and Characterisation of Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 337-344 (2001).
	Jones et al., "Theory of Aggregation of Nitrogen in Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, Ch. A5.1, pp. 127-129 (2001)
	Kalish et al., "Doping of Diamond Using Ion Implantation", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 321-330 (2001).
	Kiflawi et al., "Aggregates of Nitrogen in Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, Ch. A5.2, pp. 130-133 (2001)
	Kiflawi et al., "The Nitrogen Interstitial in Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, Ch. A5.3, pp. 134-135 (2001)
	Koizumi et al., "Ultraviolet Emission from a Diamond pn Junction", <i>Science</i> 292 :1899-1900 (2001)
	Krasutsky et al., "A New One-Step Method for Oxaadamantane Synthesis", <i>Tetrahedron Letters</i> 37 (32):5673-5674 (1996).
	Krasutsky et al., "Observation of a Stable Carbocation in a Consecutive Criegee Rearrangement with Trifluoroacetic Acid", <i>J. Org. Chem.</i> 65 :3926-3933 (2000).
	Kresge et al., "Ordered mesoporous molecular sieves synthesized by a liquid-crystal template mechanism", <i>Nature</i> 359 :710-712 (1992).
	Krishnamurthy et al., "Heteroadamantanes. 2. Synthesis of 3-Heterodiamantanes", <i>Journal of Org. Chem.</i> , 46 (7):1388-1393 (1981).
	Kroschwitz, J.I., "Electrically Conductive Polymers", <i>High Performance Polymers and Composites</i> , John Wiley & Sons, pp. 174-219 (1991)
	Kuhn et al., "Diamond Colour Centres as a Nanoscopic Light Source for Scanning Near-Field Optical Microscopy", <i>Journal of Microscopy</i> 202 (1):2-6 (2001).
	Kurtsiefer et al., "Stable Solid-State Source of single Photons", <i>Physical Review Letters</i> 85 (2):290-293 (2000).
	Lansbury et al., "Some Reactions of α -Metalated Ethers", <i>The Journal of Organic Chemistry</i> 27 (6):1933-1939 (1962).
	Lawson et al., "The Effect of Transition Metals (TM) on the Aggregation Kinetics of Nitrogen in Diamond" <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, Ch. A6.2, pp. 172-173 (2001).
	Liaw et al., "Synthesis and Characterization of New Polyamides and Polyimides Prepared from 2,2-bis[4-(4-aminophenoxy)phenyl]adamantane", <i>Macromol. Chem. Phys.</i> 200 (6):1326-1332 (1999).
	Lippert et al., "Darstellung und UV-Spektren einiger Fluoren-Derivate", <i>Angew. Chem.</i> 71 :429-430 (1959).
	Lin et al., "Natural Occurrence of Tetramantane (C ₂₂ H ₂₈), Pentamantane (C ₂₆ H ₃₂) and Hexamantane (C ₃₀ H ₃₆) in a Deep Petroleum Reservoir", <i>Fuel</i> 74 (10):1512-1521 (1995).
	Makarova et al., "Psychotropic Activity of Some Aminoketones Belonging to the Adamantane Group" <i>Pharmaceutical Chemistry Journal</i> 34 (6):14-16 (2000).
	Marchand, A.P., "Diamondoid Hydrocarbons-Delving into Nature's Bounty", <i>Science</i> 299 :52-53 (2003).
	Marchand, A.P., "Polycyclic Cage Compounds: Reagents, Substrates, and Materials for the 21 st Century", <i>Aldrichimica Acta</i> 28 (4):95-104 (1995).

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Sheet	4	of	8	Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
				Attorney Docket Number	005950-845

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Marshall et al., "Some N-Arylsulfonyl-N-alkylureas", Journal of Organic Chemistry 23 :927-929 (1958).
	Marshall et al., "Further studies on N-Arylsulfonyl-N-alkylureas", Journal of Medicinal Chemistry 6 :60-63 (1963).
	McKervey, et al., "Synthetic Approaches to Large Diamondoid Hydrocarbons", Tetrahedron 36 :9710992 (1980).
	Meeuwissen et al., "Synthesis of 1-phosphaadamantane," Tetrahedron Vol. 39, No. 24, pp. 4225-4228 (1983).
	Mikhailov et al., "Organoboron Compounds", J. Organometallic Chemistry 250 :23-31 (1983).
	Moiseev et al., "Reactions of Adamantanes in Electrophilic Media", Russian Chem. Reviews 68 (12):1001-1020 (1999).
	Mochizuki et al., "Polarizability of silicon clusters", Chemical Physics Letters 336 :451-456 (2001).
	Mukherjee et al., "On the Stereochemistry of the Oxidation of 5-Phenyl-2-thiaadamantane", J. Org. Chem. 58 :7955-7957 (1993).
	Newton, M.E., "Neutral ($[N_3]^0$) and ionized ($[N_3]^+$) single substitutional nitrogen in diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 136-141 (2001).
	Neves et al., "Optical and EPR properties of transition metals in diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 167-171 (2001).
	Nordlander et al., "Solvolysis of 1-Adamantylcarbiny and 3-Homoadamantyl Derivatives. Mechanism of the Neopentyl Cation Rearrangement", Journal of the American Chemical Society 88 (19):4475-4484 (1966).
	Okoroanyanwu et al., "Alicyclic Polymers for 193 nm Resist Applications: Lithographic Evaluation", Chem. Mater. 10 :3328-3333 (1998).
	Park et al., "endo-Fullerene and Doped Diamond Nanocrystallite-Based Models of Qubits for Solid-State Quantum Computers", J. Nanoscience and Nanotechnology 1 (1):75-81 (2001).
	Parker, I.D., "Carrier Tunneling and Device Characteristics in Polymer Light-Emitting Diodes", J. Appl. Phys. 75 (3):1656-1666 (1994).
	Pasini et al. "Novel Design of Carbon-Rich Polymers for 193 nm Microlithography: Adamantane-Containing Cyclopolyers", Advanced Materials 12 (5):347-351 (2000).
	Pate, B.B., "The Diamond Surface: Atomic and Electronic Structure", Surface Science 165 :83-142 (1984).
	Pavesi et al., "Optical Gain in Silicon Nanocrystals", Nature 408 :440-444 (2000).
	Pereira, E., "Photoconductivity in Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 243-244 (2001).
	Prins, J.F., "Large Dopants in Diamond", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 331-336 (2001).
	Radziszewski et al., "2-Azaadamant-1-ene and 4-Azaprotadamant-3-ene", J. Am. Chem. Soc. 106 :7996-7998 (1984).
	Ramdas, A.K., "A1.2 Modifications to ^{12}C -diamond by the ^{13}C -isotope: Raman, Brillouin and Infrared Spectroscopy of Phonons", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 14-20 (2001).

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Sheet 5 of 8				Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
				Attorney Docket Number	005950-845

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Ramdas, A.K., "A1.3 Electronic Excitations in Isotopically Controlled Diamonds: Infrared and Raman Spectroscopy of Acceptor-Bound Holes", <i>Properties, Growth and Applications of Diamond</i> edited by M.H. Nazare and A.J. Neves, INSPEC, London, pp. 21-27 (2001).
	Raty et al., "Quantum Confinement and Fullerenelike Surface Reconstructions in Nanodiamonds", <i>Physical Review Letters</i> 90 (3):037401.1-037401.4 (2003)
	Reinhardt, H.F., "Biadamantane and some of its Derivatives", <i>Journal of Organic Chemistry</i> 27 :3258-3261 (1962).
	Risch et al., "Triple (Grob) Fragmentation. Retro-Mannich Reactions of 1-Aza-Adamantane Derivatives", <i>Tetrahedron Letters</i> 32 (35):4465-4468 (1991).
	Risch et al., "Unusual Reorganization Reactions of 3-Azabicyclo [3.3.1]nonanes", <i>J. Am. Chem. Soc.</i> 113 :9411-9412 (1991).
	Roberts et al., "anti-Tetramantane, a Large Diamondoid Fragment", <i>Acta. Cryst.</i> B33 :2335-2337 (1977).
	Sasaki et al., "New Highly Strained Bridgehead Imines, 2-Azaadamant-1-ene and 4-Azaprotadamant-3-ene", <i>Tetrahedron Letters</i> 23 (47):4969-4972 (1982).
	Sasaki et al., "Synthesis and Acidolysis of 3-endo-Azidomethyl- and 3-endo-Azido-bicyclo[3.3.1]non-6-enes. A Novel Synthesis of 4-Azahomoadamant-4-enes", <i>J. Chem. Soc. Perkin Trans I</i> 2529-2534 (1983).
	Sasaki et al., "Synthesis of Adamantane Derivatives. 42. Novel Synthesis of 5-Methylene-4-azahomoadamantane Derivatives from 2-Methyl-2-hydroxyadamantane and Their Carbon-13 Nuclear Magnetic Resonance Spectra", <i>J. Org. Chem.</i> 43 (20):3810-3813 (1978).
	Sasaki et al., "Photolytic Generation of Anti-Bredt Imines from 1-Azidobicyclo[2.2.2]octane, 1-Azidobicyclo[3.3.1]nonane, and 3-Azidonoradamantane", <i>J. Org. Chem.</i> 48 (22):4067-4072 (1983).
	Sasaki et al., "Synthesis of Adamantane Derivatives. II. Preparation of Some Derivatives from Adamantylacetic Acid", <i>Bulletin of the Chemical Society of Japan</i> 41 (1):238-240 (1968).
	Sasaki et al., "Substitution Reaction of 1-Bromoadamantane in Dimethyl Sulfoxide: Simple Synthesis of 1-Azidoadamantane", <i>Journal of the American Chemical Society</i> 92 :24 (1970).
	Sasaki et al., "Synthesis of Adamantane Derivatives. 47. Photochemical Synthesis of 4-Azahomoadamant-4-enes and Further Studies on Their Reactivity in Some Cycloadditions", <i>Journal of Organometallic Chemistry</i> 44 (21):3711-3715 (1979).
	Sasaki et al., "Synthesis of Adamantane Derivatives. XII. The Schmidt Reaction of Adamantane-2-one", <i>J. Org. Chem.</i> 35 (12):4109-4113 (1970).
	Sasaki et al., "Synthesis of adamantane derivatives. 39. Synthesis and acidolysis of 2-azidoadamantanes: A Facile Route to 4-Azahomoadamant-4-Enes", <i>Heterocycles</i> 7 (1):315-320 (1977).
	Scherz, P., "Semiconductors: Chapter 4", <i>Practical Electronics for Inventors</i> , McGraw-Hill, New York, pp. 123-190 (2000).
	Scherz, P., "Optoelectronics: Chapter 5", <i>Practical Electronics for Inventors</i> , McGraw-Hill, New York, pp. 191-212 (2000).
	Service, R.F., "Can Chemists Assemble a Future for Molecular Electronics?", <i>Science</i> 295 :2398-2399 (2002).
	Stetter et al., "Zur Kenntnis der Adamantan-carbonsaure-(1)", <i>Über Verbindungen mit Urotropin-Struktur</i> , XVII , 93 :1161-1166 (1960).
	Stetter et al., "Ein Beitrag zur Frage der Reaktivität von Brückenkopf-Carboniumionen", <i>Über Verbindungen mit Urotropin-Struktur XXVI</i> , <i>Chem. Ber.</i> 96 :550-555 (1963).

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449A/PTO & 1449B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/758,679
				Filing Date	January 15, 2004
				First Named Inventor	Jeremy E. Dahl et al.
				Examiner Name	Venci, David
Sheet	6	of	8	Attorney Docket Number	005950-845

NON-PATENT LITERATURE DOCUMENTS	
Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Stetter et al., "Neue Moglichkeiten der Directsubstitution am Adamantan", Uber Verbindungen mit Urotropin-Struktur, XLII, Chem. Ber. 102 (10):3357-3363 (1969).
	Stetter et al., "Uber Adamantan-phosphonsaure-(1)-dichlorid", Uber Verbindungen mit Urotropin-Strukture XLIV, Chem. Ber. 102 (10):3364-3366 (1969).
	Stetter et al., "Herstellung von Derivaten des 1-Phenyl-adamantans", Uber Verbindungen mit Urotropin-Strukture, XXXI, Chem. Ber. 97 (12):3488-3492 (1964).
	Stetter et al., "Ringschlußreaktionen ausgehend von Bicyclo[3.3.1]nonandion-(3.7) Uber Verbindungen mit Urotropin-Strukture, XXX Chem. Ber. 97 3480-3487 (1964).
	Suginome et al., "The Replacement of the Carbonyl Group of Adamantanone by an Oxygen or sulfur Atom and the One-step Transformation of 2-Methyladamantan-2-ol into 2-Oxa-adamantane; An Efficient New Synthesis of 2-Oxa- and 2-Thiaadamantane", Synthesis 741-743 (1986).
	Suginome et al., "Photoinduced Transformations. 73. Transformations of Five-(and Six-) Membered Cyclic Alcohols into Five-(and Six-) Membered Cyclic Ethers-A New Method of a Two-Step Transformation of Hydroxy Steroids into Oxasteroids", Journal of Organometallic Chemistry 49 :3753-3762 (1984).
	Tada et al., "Optical Properties and Blue and Green Electroluminescence in Soluble Disubstituted Acetylene Polymers", Jpn. J. Appl. Phys. 35 , part 2, No. 9A:1138-1141 (1996).
	Udding et al., "A Ring-opening Reaction of and Some Cyclisations to the Adamantane System. A Quasi-favorsky Reaction of a β -bromoketone", Tetrahedron Letters 55 :5719-5722 (1968).
	Verhoeven, J.W., "From Close contact to Long-Range Intramolecular Electron Transfer", Intramolecular Electron Transfer, Advances in Chemical Physics 106 :603-644, John Wiley and Sons, (1999).
	von Daeniker, H.U., "206. 1-Hydrazinoadamantan", Helvetica Chimica Acta 50 (7):2008-2010 (1967).
	Yang et al., "The Synthesis and Structural Characterization of Carborane Oligomers Connected by Carbon-Carbon and Carbon-Boron Bonds Between Icosahedra", Inorganica Chimica Acta 240 :371-378 (1995).
	Zarda, P., "Single Photo Source ", http://scotty.quantum.physik.uni-muenchen.de/exp/sps/sum.html , pp. 1-11 (2001).
	Zheng et al., "Novel Blue Light Emitting Polymers", Polymer Preprints 41 (1):822-823 (2000).
	Verber et al., "Molecular Properties that Influence the Oral Bioavailability of Drug Candidates", <i>J. Med. Chem.</i> 45 :2615-2623 (2002).
	Murray, Roger K., Saint Joseph's University, Chemistry Department, Research Interests, http://www.sju.edu/cas/chemistry/rmurray/research.html
	Fort et al., "Adamantane: Consequences of the Diamondoid Structure", Chem. Rev. 64 :277-299 (1964).

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.